

**MILWAUKEE COUNTY
PROCUREMENT DIVISION**

**SPECIFICATION NO.: 530.26303
EFFECTIVE DATE: 09-25-06**

**MINIMUM SPECIFICATIONS FOR TRUCK PARTS-TWO (2) PURCHASE AND INSTALLATION OF
DUMP BODIES AND 20' RUNWAY PLOWS FOR CHASSIS
(AIRPORT)**

1 SCOPE AND CLASSIFICATION

- 1.1 It is the intent of this bid to describe the requirements for the purchase and installation of a DUMP BODY and WAUSAU BMP 2050 HW, 20' RUNWAY PLOW. These items are to be provided and installed on a tandem chassis provided to the successful bidder by Milwaukee County.**

2. CODE OF ETHICS

- 2.1 No person(s) with a personal financial interest in the approval or denial of a contract being considered by a County department or with any agency funded and regulated by a County department may make a campaign contribution to any County official who has approval authority over that contract during its consideration. Contract consideration shall begin when a contract is submitted directly to a County department or to an agency until the contract has reached final disposition, including adoption, county executive action, proceedings on veto, (if necessary), or departmental approval. This provision does not apply to those items covered by Section 9.15 unless an acceptance by an elected official would conflict with this section.**

3. DOCUMENTS

Each vendor shall provide two (2) complete bid packages including informational/promotional literature that describes the equipment to be installed. Failure to provide the promotional literature with the bid will result in rejection.

4. REQUIREMENTS

THE COMPLIANCE SPACE MUST BE COMPLETED THOROUGHLY AND ACCURATELY. IF VENDOR CHECKS "NO" TO MEETING ANY OF THE SPECIFICATIONS, VENDOR MUST INCLUDE A WRITTEN EXPLANATION AND ATTACH IT TO THE BID OR BID WILL BE REJECTED.

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4.1 CHASSIS

4.1a FRONT BUMPER

1. The front bumper shall be 12" by 3" by 1/4" painted steel with a Bustin Sure Grip step bar, approximately 1" wide, welded to the top side of the bumper.
2. Two (2) steps, one (1) right hand and one (1) left hand, shall be welded under the bumper. The tread of each step shall be Bustin Sure Grip. Exact location shall be determined with successful bidder.
3. Bid Compliance Yes___ No___

4.1b INNER-FENDERS

1. The vehicle shall be equipped with Minimizer inner-fenders on the rear wheels on both the driver and passenger side for 24.5 rear tires.
2. The fenders shall be equipped with light housings for back-up and brake/turn lights.
3. Bid Compliance Yes___ No___

4.2 DUMP BODY

4.2a SIZE

1. Heavy duty dump box with a minimum 10-yard capacity.
2. Inside dimensions shall be 13' long, 7' wide. The sides shall be between 36" and 46" high and the tailgate between 46" and 54" high.
3. Bid Compliance Yes___ No___

4.2b CONSTRUCTION

1. The entire body shall be 100% continuous welded construction. The sides shall be constructed of 7-gauge steel and the floor constructed of 3/16" AR 400 steel.
2. There shall be 3 vertical side braces welded to each side.
3. Bustin Firm Grip safety grating step bars approximately 1" wide shall be welded full length to each side of the body. The exact location to be determined with successful bidder.
4. Heavy duty under structure gusseted and welded to the body.
5. Front mounted telescoping single acting lift cylinder with dog house in body.
6. A safety leg, permanently attached to the frame, shall be furnished to support the weight of the body. The safety leg shall have the ability to be locked in place and the pivot point shall have a grease zerk.

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7. A double-acting tailgate with the chute in the center and spread chains.
8. A quarter cab protector, 10 gauge all welded steel construction with 2" by 2" by 1/8" angle iron vertical braces.
9. The cab protector shall have four 3" holes on 6" centers located on the cab rear window horizontal centerline. The holes shall be covered by expanded metal.
10. The tailgate release lever and linkage shall have all pivot and slip points fitted with grease zerks.
11. Two stainless steel shovel holders shall be attached to each side of the box. They shall be offset and bolted to a plate that is welded to the box.
12. All moving linkage parts on the dump body shall be equipped with zerk fittings.
13. Bid Compliance Yes___ No___

4.3 COLOR

4.3a DUMP BODY

1. The entire dump body, both inside and out, shall be painted Chrome Yellow, Ford W6695F. Paint sample will be provided to successful bidder.
2. Bid Compliance Yes___ No___

4.3b BUMPER

1. The bumper shall be painted black
2. Bid Compliance Yes___ No___

4.4 TRAILER LIGHTS/BRAKES & PINTLE HOOK

4.4a DESCRIPTION

1. Trailer light connection shall be installed to terminate with a Velvac, Model 055052, and six-pin female weatherproof plug at the rear of the vehicle.
2. Electric trailer brakes shall be installed with the controller to be located in the cab of the vehicle and the female connection to be located at the rear of the vehicle. The plug shall be six pronged.
3. A Holland TA90A swivel type pintle hook with a mounted height of 29 1/2" to 31 1/2" shall be installed on a 1" steel plate. Location to be determined with successful bidder.
4. All wiring shall be tinned and marine grade.

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5. Bid Compliance Yes___ No___

4.5 LIGHTING/ALARM

4.5a DESCRIPTION

1. Auxiliary lighting controlled by a minimum of 7 – 15 amp lighted rocker switches that are integral with the console.
2. A Federal Signal model 443112-02 revolving amber light shall be mounted on a self-leveling bracket located in the center of the front leading edge of the dump box cab protector. The light must have an external ground wire to the frame.
3. Four high intensity LED amber alternating strobes lights shall be mounted, two (2) on the vertical portion of the rear of the dump box and two (2) in protective boxes facing backward on top of the cab protector at the outer ends. The LED lights shall be wide angle with 60 to 120 flashes per minute.
4. The vehicle shall have two (2) high intensity LED back-up lights and two high intensity LED brake/turn lights mounted on the vertical portion of the rear of the dump box directly below the two amber LED strobe lights and two (2) LED brake /turn lights and two (2) LED back-up lights installed in the minimizer fenders.
5. Two (2) multiple beam halogen plow lights shall be mounted on reinforced brackets on the front fenders so that their light beam clears the top of the plow moldboard in the raised position. Plow lights shall be connected to the headlight switch and have a selector switch.
6. All auxiliary lighting is to be closed and sealed.
7. The vehicle shall be equipped with a Smart Alarm or Velvac model 697066 self-adjusting back-up alarm.
8. All wiring shall be tinned and marine grade.

9. Bid Compliance Yes___ No___

4.6 HYDRAULICS

3.6a PUMP DRIVE

1. A constant mesh PTO that is mounted to an Allison transmission shall drive the pump. The PTO shall run at a speed that is as close to 100% of the engine speed as possible. The PTO shall accept the Din type mounting flange and Din spline shaft from the pump. The use of a driveline to remote mount the pump will not be accepted. The pump shall be mounted directly to the PTO.

2. Bid Compliance Yes___ No___

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4.6b HIGH PRESSURE BALL VALVE

1. A 1" inside diameter high-pressure ball valve shall be installed at the discharge side of the pump to shut-off pump flow in case of an emergency breakdown.
2. Bid Compliance Yes___ No___

4.6c HIGH PRESSURE FILTER

1. A high-pressure filter should be installed in the pressure line before the valve to rid any contaminants from clogging the valve passage upon start-up. The filter shall be an Inter-Norman filter assembly part number HP17125VG30EPUG5S2AE7050P.
2. Bid Compliance Yes___ No___

4.6d HYDRAULIC PUMP

1. The hydraulic pump shall be an axial piston pressure and flow compensating load-sensing type pump. The pump shall have a displacement of 5.61 cubic inches per revolution at maximum stroke which will deliver 23.7 GPM @ 1000 engine RPM. The pump shall have a minimum 2" suction line and 1/2" control drain line plumbed directly back to the reservoir. The pump shall be rated for 5800 PSI maximum and 4800 PSI continuous. The pump shall have a Din-type mounting flange. The pump shall be a Force America Model TXV92. No substitutes shall be accepted.
2. Bid Compliance Yes___ No___

4.6e HYDRAULIC VALVE

1. The hydraulic valve shall be of modular manifold design. Each hydraulic function requires an individual manifold stacked together to form the manifold base. The hydraulic control valves shall be pulse-width modulated and proportionally controlled. Each hydraulic valve segment shall be Parker MCV-ISO and individually mounted to the manifold base assembly and be serviceable without removing any hydraulic hoses or any other hydraulic valve segments. All segments shall have heavy-duty continuous duty coils and connections shall be with Hirshman connectors. All coils shall operate at 12 VDC, require a maximum of 1400 milliamps and have an 80-millisecond shift time. Each segment shall be equipped with a rack and pinion manual override. Valve sections must have adjustable stroke limiter flow controls for each function.

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Valve segments shall be Force America "Add-A-Fold" and be arranged as follows:

- a. Hoist, single acting cylinder.
- b. Plow lift, double acting cylinder, 21 gpm with detent float.
- c. Plow angle, double acting cylinder, 21 gpm

2. Bid Compliance Yes___ No___

4.6f HYDRAULIC RESERVOIR/VALVE ENCLOSURE

- 1. The valve and tank assembly enclosure shall house the valve, return line filter, filler/breather, liquid level and temperature sensor, prewire valve cable connectors, valve fittings and hoses under one (1) rubber latched cover. The assembly shall be mounted in such a way that the cover can be removed while the hoist is in the lowered position.
- 2. The valve/tank assembly shall incorporate the following features:
 - a. Gasketless passive seals designed to eliminate salt spray while venting moisture.
 - b. Tri-point mounting to prevent tank cracks and weld failures due to truck frame flex.
 - c. Tank capacity shall be 35 gallons and be of a stepped design to promote favorable head pressure for the pump.
 - d. The return line tank top filler shall be a high capacity 5-micron microglass filter with a 12VDC25PSI bypass pressure switch wired to a filter bypass warning on the heads-up display in the truck cab.
 - e. A removable/serviceable inlet strainer to protect the pump from contamination.
 - f. Locking filler/breather cap.
 - g. External mounted 5 " fluid level/temperature indicator.
 - h. Swing-out valve mounting plate for easy access for valve maintenance and hose replacement.
 - i. Integral rear exiting hose guard.
 - j. Valve plate to accept Force America Add-A-Fold Valve.
 - k. Hydraulic oil filter shall be mounted in the reservoir. Hydraulic filter shall be a 16-micron absolute and rated for no less than 60 GPM. Filter shall be Model TEF31016VG16SP-UG60E115 or prior approved equal and include visual and electric bypass indicators. A warning light and buzzer shall be mounted in the cab and wired to the electrical indicator.
 - l. One (1) 1/4 " NPT pet cock mounted at the front side of the reservoir at the full level.
 - m. There shall be a shut-off valve on the reservoir.
- 2. The hydraulic reservoir shall be filled with Chevron 1000 hydraulic oil.

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4. The valve and tank combination enclosure shall be Force America VT-35. No substitutes shall be accepted.
5. Bid Compliance Yes___ No___

4.6g HYDRAULIC LINES

1. The suction line to the pump shall be 2 " minimum inside diameter wire braided hose, non-collapsible type rated to 400 PSI minimum.
2. The case drain hose from the pump to the reservoir shall be a 1/2 " inside diameter high-pressure hose back to the reservoir. Reduction fittings on the drain case will not be accepted.
3. The load sense line from the pump to the valve bank shall be 3/8 " inside diameter high-pressure hose with 3000 PSI minimum working pressure.
4. The pressure line from the pump to the valve inlet shall be a 1 " minimum inside diameter, quality multiple wire braid, high-pressure hose with 3000 PSI working pressure.
5. Hoses from the valve to the work functions shall be rated for a minimum 3000 PSI working pressure and be a high quality multiple braided hose.
6. Hoist and auger lines shall be 3/4 " inside diameter minimum. Plow, wing, spinner and prewet functions shall be 1/2 " minimum inside diameter. Return line hose from valve to return filter to reservoir shall be 1 1/4 " inside diameter minimum.
7. Serreted fittings with hose clamps are not acceptable. Aeroquip fittings shall be used for all the hydraulic lines and quick disconnects. Pressure lines to the motors shall use Aeroquip 5600-12-12S fittings, 5659-12 dust plug and 5657 dust cap. Return line from the motors shall be a 3/4 " inside diameter hose with Aeroquip 5600-16-16S fittings, 5659-16 dust plug and 5657 dust cap. The return line to the filter shall be a 1 " inside diameter hose with Aeroquip 5600-16-16S fittings, 5659-16 dust plug and 5657 dust cap.
8. Flexible rubber hose located less than 6 " from the exhaust system will not be accepted.
9. Only steel fittings shall be used.
10. Pipe used in plumbing will not be accepted.
11. No thread seal tape is to be used, use only Loctite Hydraulic Seal #545.
12. All lines to be secured to prevent chafing and pinching.
13. All hoses are to be mounted to allow dumping of the body without being disconnected.
14. Bid Compliance Yes___ No___

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4.6h FRONT PLOW CUSHION VALVE

1. A Gresen cushion valve, model DXV-50-1800, shall be mounted to the top of the bumper, left side, 25" from the bumper center line. High pressure, multiple wire, braided hoses for plow angling shall be mounted to this valve. Aeroquip couplings and a 24" high pressure hose, to form a return circuit, shall be mounted on the right front of the cushion valve. A female coupling shall be assembled to the end of the flexible hose.
2. Bid Compliance Yes___ No___

4.7 CONTROL CENTER

4.7a CONTROL CENTER GENERAL

1. The control center shall consist of dual Merrit Joystick adder box consisting of the controls for on-off style plow up/down and left/right on one joystick and proportional hoist up/down on the second joystick. The plow control shall include a "float" position. No substitutes shall be acceptable.
2. The joysticks shall be wired internally to a 22 pin CPC connector on the bottom of the box. The 22 pin CPC connector shall mate to the valve prewire harness.
3. An additional 9 pin CPC connector shall be mounted to the bottom of the enclosure to supply power and ground to the box.
4. The lighting functions shall be connected to an eight switch auxiliary box. The switch panel shall also have provisions for low oil; oil temperature, body up and filter bypass warnings to illuminate in the case any of the conditions are present in the system. The switch panel shall be a FORCE America part number DK 8000. No substitutes shall be acceptable.
5. The Patrol Commander control console shall be fully adjustable; up and down, front to back and left to right the exact mounting location shall be determined with successful bidder.
6. Bid Compliance Yes___ No___

4.8 20 FOOT RUNWAY PLOW

4.8a PLOW

1. The plow shall be a Wausau BMP 2050 HW Blue Max runway plow. No substitutes shall be accepted.
3. The plow shall have a spray guard bolted to the top moldboard flange or reinforcement. It shall be 12" wide by 3/8" thick rubber belt, metal

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retaining strap and necessary mounting hardware to follow the contour of the plow.

3. S.A.M. Part No. 1308200 plow guides shall be mounted on the uppermost corners of the moldboard.
4. The plow shall be equipped with "parking stands" to level the plow when not in use.
5. The plow shall be equipped with a polyurethane cutting edge with a minimum Brinell hardness of "Shore A-83 Durometer and have a tensile strength of 6,000 PSI.
6. The cutting edge shall be attached to the moldboard with grade 8 bolts.
7. The plow frame shall be black and the moldboard shall be blue.
8. Bid Compliance Yes___ No___

4.8b CASTER WHEEL ASSEMBLIES

1. The plow shall be equipped with dual wheel caster wheels that swivel 360 degrees.
2. The tires shall be 5.70 x 8.0, 8 ply, foam filled, load range D.
3. Bid Compliance Yes___ No___

4.8c HITCH

1. The hitch shall be a Wausau Quick Hitch Model SQH utilizing two (2) number 5 series cast steel claws at the top and two (2) hydraulic pin locks at the bottom.
2. The hitch shall be mounted so that the bottom of the hitch is 12" from the ground (unloaded).
3. A support bar shall be welded horizontally across the top of the hitch to keep the hitch from spreading.
4. The hitch shall be mounted to the truck frame in such a fashion that the hood of the vehicle may be opened without removing the hitch.
5. Push arms, where used, shall be attached to the bottom of the hitch and secured to the truck frame above the front axle.
6. Bid Compliance Yes___ No___

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4.8d PLOW HYDRAULICS

1. The plow hydraulic system shall be heavy duty construction utilizing only Aeroquip fittings.
2. The plow shall be mounted so as to provide an 11" clearance from the ground to the cutting edge when the plow is raised.
3. Bid Compliance Yes___ No___

4.8e PLOW ACCESSORIES

1. Two multiple beam high intensity plow lights shall be mounted on reinforced brackets on the front fenders so that their light beam clears the top of the plow moldboard in the raised position. The center of the lights shall be a minimum of 60 " from the ground.
2. The plow lights shall be high intensity discharge plow lights. Bulb shall be 35 watt, xenon lamp using xenon gas and no filament. Color temperature shall be a minimum of 4,100 degrees K.
3. The plow lights shall be connected to the headlight switch and have a selector switch.
4. All wiring shall be tinned and marine grade.
5. Bid Compliance Yes___ No___

4.8f PLOW/HITCH INSTALLATION

1. The plow and hitch shall be installed by Schmidt Engineering & Equipment, Inc. No substitutes shall be accepted.
2. It must be possible to check all engine fluid levels with the plow mounted.
3. Bid Compliance Yes___ No___

4.9 RUSTPROOFING

4.9a DESCRIPTION

1. The entire vehicle shall be protected against rust by Ziebart or Tuff-Kote Dinol. Dry film thickness shall be 10 – 15 mil. minimum.
2. Bid Compliance Yes___ No___

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5. GENERAL SPECIFICATIONS

5.1 NEW EQUIPMENT

- 5.1a** The equipment shall be the current, new and unused model built by the manufacturer. The equipment must be delivered completely assembled and ready for operation at the time of delivery.

5.2 PARTS AND SERVICE

- 5.2a** The vendor must have an authorized parts and service facility located within 110 miles of Milwaukee County with a sufficient stock of parts and trained technicians to service the equipment bid.

5.3 MANUALS

- 5.3a** The successful vendor shall, upon delivery, furnish one (1) complete set of parts, service and operator's manuals which may be written, micro fiche or CD Rom that cover the equipment specified.

5.4 TRAINING

- 5.4a** The successful vendor, at a time mutually agreeable to Milwaukee County, provide up to six (6) hours of training to operators and service technicians covering the operation and maintenance of the equipment if requested.

5.5 WARRANTY

- 5.5a** The warranty shall start the first day the vehicle is placed in service. The manufacturer shall warrant the furnished equipment and devices against parts failure or malfunction due to design, construction, installation or errors in assembly of components, defective materials and workmanship. The vendor shall include with the bid document a warranty statement outlining the base warranty covering the vehicle/equipment bid.
- 5.5b** Should any vehicle in this bid encounter a defect while under warranty, the vendor will be responsible for all costs associated with transporting the vehicle to and from an authorized service facility. The vendor will be required to respond to all warranty requests for service, including picking-up of the vehicle, within 24 hours of being contacted by Milwaukee County Fleet Management. All repairs covered under warranty are to be completed on a timely basis.

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5.6 ALTERNATIVES AND APPROVED EQUAL

- 5.6a** If the vendor is bidding alternatives, a separate sheet is to be submitted for each alternative.
- 5.6b** The mention of a particular manufacturer's brand name or number in the specification does not imply that this particular product is the only one that will be considered for purchase. This reference is intended solely to designate the type or quality of merchandise that will be accepted unless otherwise noted.

5.7 DEMONSTRATION

- 5.7a** Milwaukee County reserves the right to request a demonstration of any bidder's proposed equipment prior to issuance of a purchase order.

5.8 PRICE AND DELIVERY

- 5.8a** The price bid for the equipment must be **NET PRICE DELIVERED**. Any bid modifying or "escalator" clauses will not be considered or bid will be rejected .
- 5.8b** The vendor shall state the length of time required for delivery of the first vehicle to Milwaukee County. Delivery to Milwaukee County of the first vehicle must occur within 45-60 days of the vendor receiving the base chassis from Milwaukee County.

DATE THE FIRST VEHICLE WILL BE DELIVERED TO

MILWAUKEE COUNTY:_____